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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/055,183

10/26/2001

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600-032

8449

22928 7590 01/29/2008  
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EXAMINER

LAU, TUNG S

ART UNIT

PAPER NUMBER

2863

MAIL DATE

DELIVERY MODE

01/29/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/055,183	<b>Applicant(s)</b> LINDER ET AL.	
	<b>Examiner</b> TUNG S. LAU	<b>Art Unit</b> 2863	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 November 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-76 is/are pending in the application.
- 4a) Of the above claim(s) 33-76 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Election/Restrictions***

1. A response on 11/08/2007 a provisional election was made without traverse to prosecute the invention of claims 1-32. Claims 33-76 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Because these inventions are distinct for the reasons given on action dated 09/06/2007, restriction for examination purposes as indicated is proper.

The requirement is still deemed proper and is therefore made FINAL.

**Claims objection**

2. The status identifier of claims 64-75 is not correct, the status identifier should label as (withdrawn) and not (Original), correction is required.

**Joint inventor**

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered yes, I just therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 12, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 26, 27, 28, 29, 31, 30, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Katsumi Morishita (Index. Profiling of Three-Dimensional Optical Waveguide by the Propagation-mode Near-Filed Method, IEEE 1986, page 1120-1124).

**Regarding claim 1:**

Katsumi Morishita describes a computer-readable medium having stored thereon a data structure (page 1121, fig. 1), the data structure including data representing a characteristic of an optical member (page 1121), the data structure comprising: at least one field containing information corresponding to a three-dimensional

map of the optical member (page 1121, fig. 5), the map including a plurality of refractive index measurements taken at a plurality of interior locations within the optical member (page 1121, fig. 6).

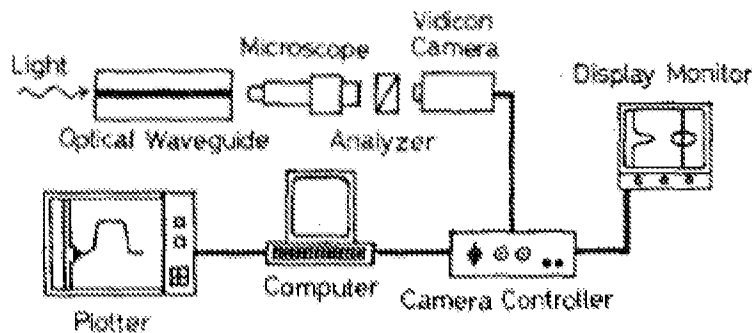


Fig. 1. Experimental apparatus for refractive-index profile measurements.

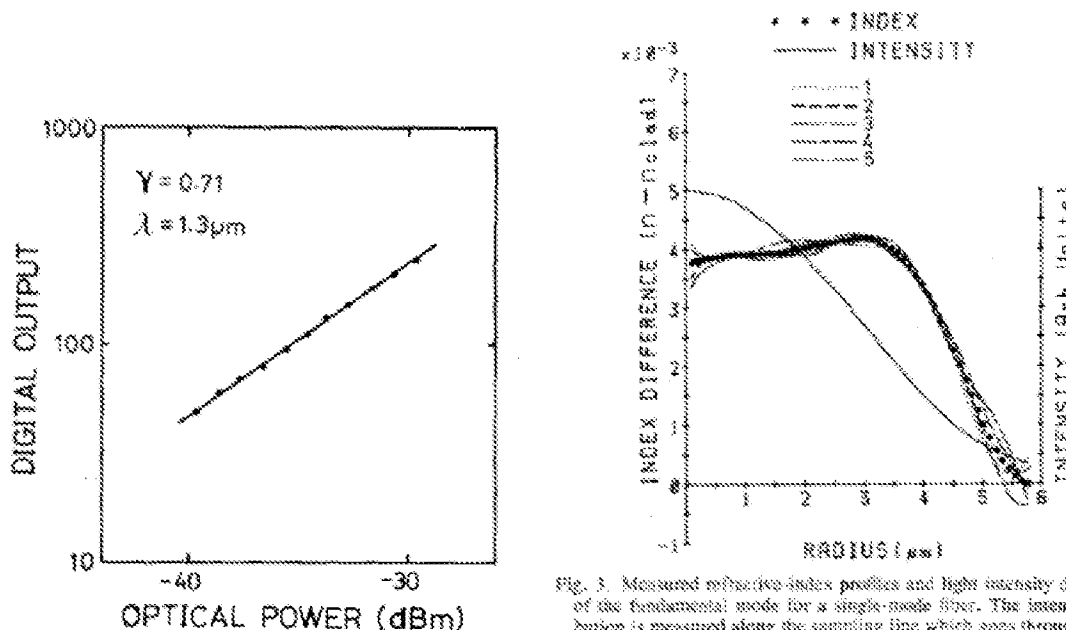


Fig. 2. Light transfer characteristic of an infrared vidicon.

Fig. 3. Measured refractive-index profiles and light intensity distribution of the fundamental mode for a single-mode fiber. The intensity distribution is measured along the sampling line which goes through the core center.

## Regarding claim 12:

Katsumi Morishita describes a computer-readable medium having computer-executable instructions (fig. 1, page 1121) for performing a method for characterizing an optical member (fig. 1), the method comprising: providing

information corresponding to a plurality of refractive index measurements taken at a plurality of interior locations within the optical member (fig. 3, 4, 5, 6); and converting the information into a three-dimensional map of the optical member (fig. 3, 4, 5, 6), the three-dimensional map including a plurality of refractive index values distributed throughout the interior of the optical member (fig. 3, 4, 5, 6).

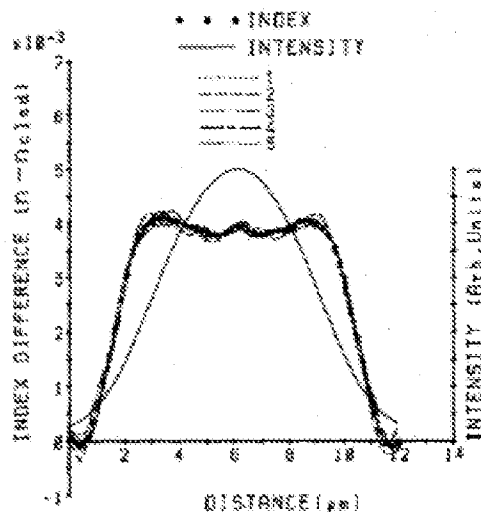


Fig. 4. Measured refractive-index profiles and light intensity distribution of the fundamental mode for a single-mode fiber. The intensity distribution is measured with a 0.2- $\mu$ m square resolution grid.

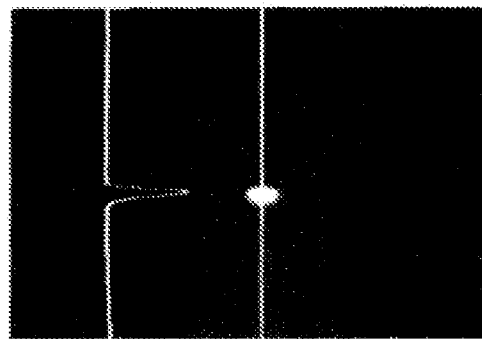


Fig. 5. Video image of the TE fundamental mode for a three-dimensional optical waveguide formed by  $K^+$  ion exchange in a soda lime glass.

**Regarding claim 2,** Katsumi Morishita further describes compressed (page 1121) digital data (fig. 1).

**Regarding claim 3,** Katsumi Morishita further describes a floppy disk (page 1121, desktop computer).

**Regarding claim 4,** Katsumi Morishita further describes a hard disk (page 1121, desktop computer).

**Regarding claim 5,** Katsumi Morishita further describes a CD-ROM (page 1121, desktop computer).

**Regarding claim 6,** Katsumi Morishita further describes an electronic memory (page 1121, desktop computer).

**Regarding claim 7,** Katsumi Morishita further describes optical storage (page 1121, desktop computer, CD-ROM, optical drive in desktop computer).

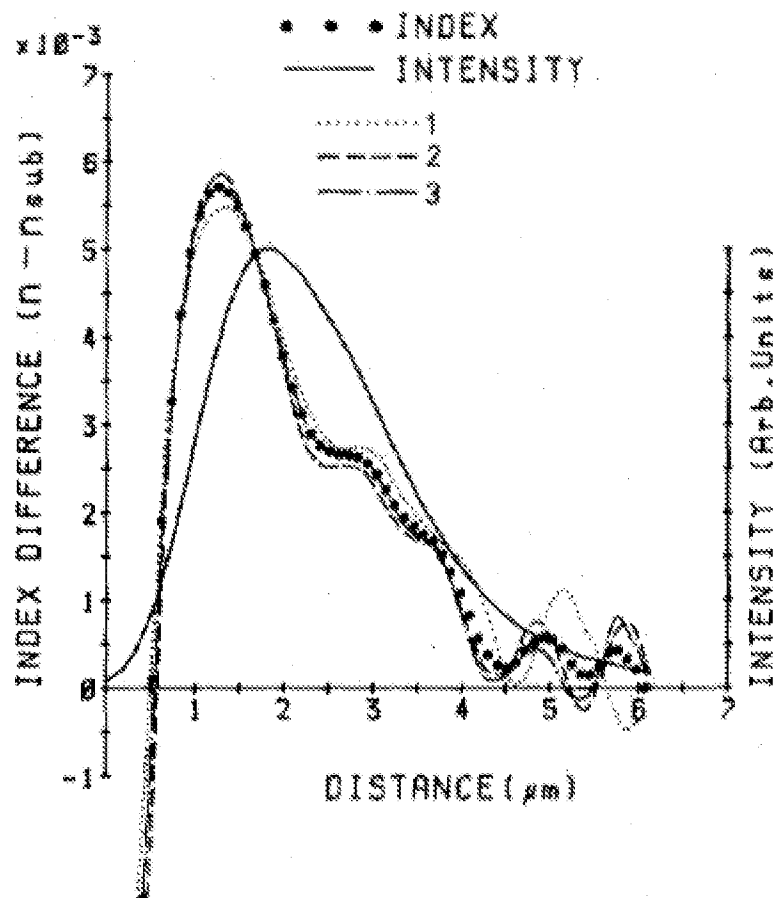


Fig. 6. Measured refractive-index profiles and light intensity distribution of the TE fundamental mode for a three-dimensional optical waveguide formed by K<sup>+</sup> ion exchange in a soda lime glass. The intensity distribution is measured with a 0.1-μm square resolution grid.

**Regarding claim 8,** Katsumi Morishita further describes database (page 1121, desktop computer).

**Regarding claim 9**, Katsumi Morishita further describes a plurality of refractive index measurements (fig. 2-6) of a strip extracted from the optical member (fig. 1, optical waveguide), the plurality of refractive index measurements taken at a plurality of locations normal to a cross-sectional area formed by a radial axis of the optical member and a axis normal to the radial axis (page 1123).

**Regarding claim 10**, Katsumi Morishita further describes at least one field includes a field identifying the optical member (fig. 4).

**Regarding claim 11**, Katsumi Morishita further describes the at least one field includes a homogeneity map of the optical member (fig. 2-6).

**Regarding claim 14**, Katsumi Morishita further describes transmitting the information using e-mail (see desktop computer).

**Regarding claim 15**, Katsumi Morishita further describes transmitting the information over the Internet (see desktop computer).

**Regarding claim 16**, Katsumi Morishita further describes transmitting the information using a telecommunications network (see desktop computer).

**Regarding claim 17**, Katsumi Morishita further describes wireless network (see desktop computer others section).

**Regarding claim 18**, Katsumi Morishita further describes the step of providing includes physical delivery of a computer readable medium having stored thereon a data structure (page 1121, fig. 1), the data structure including at least one field containing information corresponding to a three- dimensional map of the optical



member (fig. 4-6), the map including a plurality of refractive index measurements taken at a plurality of interior locations within the optical member (fig. 4-6).

**Regarding claim 26**, Katsumi Morishita further describes the step of storing data corresponding to the three dimensional map on a medium (fig. 1, 4-6).

**Regarding claim 27**, Katsumi Morishita further describes including paper (fig. 1, plotter, printer in desktop computer).

**Regarding claim 28**, Katsumi Morishita further describes optical storage (CD-Rom, optical drive in desktop computer).

**Regarding claim 29**, Katsumi Morishita further describes a floppy disk (page 1121, desktop computer).

**Regarding claim 31**, Katsumi Morishita further describes electronic memory (page 1121, desktop computer).

**Regarding claim 30**, Katsumi Morishita further describes hard disk (page 1121, desktop computer).

**Regarding claim 32**, Katsumi Morishita further describes compact disk (page 1121, cd-rom desktop computer).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

a. Claims 13, 19, 20, 21, 22, 23, 25 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsumi Morishita (Index. Profiling of Three-Dimensional Optical Waveguide by the Propagation-mode Near-Filed Method, IEEE 1986, page 1120-1124) in view of Matsui et al. (U.S. Patent 6,438,298).

**Regarding claim 13**, Katsumi Morishita further describes the strip having a cross-sectional area in a plane formed by a radial axis of the optical member and an axis normal to the radial axis (page 1121); and taking a plurality of refractive index measurements of the strip at a plurality of locations in the cross-sectional area (fig. 3-6).

Katsumi Morishita does not describe extracting a radial strip from the optical member. Matsui describe extracting a radial strip from the optical member (col. 2, lines 51-67), in order to cut out any desire region to perform optical display or optical operation (col. 2, lines 51-67).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Katsumi Morishita to have the extracting a radial strip from the optical member taught by Matsui in order to cut out any desire region to perform optical display or optical operation.

**Regarding claim 19**, Katsumi Morishita further describes using the map to locate a portion of the optical member having refractive index values corresponding to specified refractive index values (fig. 4-6).

Katsumi Morishita does not describe extracting the portion to form an optical blank having refractive index values corresponding to specified refractive index values.

Matsui describe extracting the portion to form an optical blank having refractive index values corresponding to specified refractive index values (col. 2, lines 51-67), in order to cut out any desire region to perform optical display or optical operation (col. 2, lines 51-67).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Katsumi Morishita to have the extracting the portion to form an optical blank having refractive index values corresponding to specified refractive index values taught by Matsui in order to cut out any desire region to perform optical display or optical operation.

**Regarding claim 20**, Katsumi Morishita further describes providing the optical blank (fig. 1, optical waveguide); and providing information corresponding to a three-dimensional refractive-index map of the optical blank (fig. 4-6).

**Regarding claim 21**, Katsumi Morishita further describes corresponding to a three-dimensional refractive-index map of the optical blank (fig. 4-6) includes transmitting the information using e-mail (page 1121, see desktop computer).

**Regarding claim 22**, Katsumi Morishita further describes the step of providing information corresponding to a three-dimensional refractive-index map of the optical blank (fig. 4-6) includes transmitting the information over the Internet (see desktop computer).

**Regarding claim 23**, Katsumi Morishita further describes the step of providing information corresponding to a three-dimensional refractive-index map of the optical blank (fig. 4-6) includes transmitting the information using a telecommunications network (see desktop computer).

**Regarding claim 25**, Katsumi Morishita further describes the step of providing information corresponding to a three-dimensional refractive-index map of the optical blank (fig. 4-6) includes physical delivery of a computer readable medium having stored thereon a data structure (page 1121), the data structure including at least one field containing information corresponding to a three-dimensional map of the optical blank (fig. 4-6).

**Regarding claim 24**, Katsumi Morishita further describes the network is a wireless network (see desktop computer).

35 U.S.C. 103 authorizes a rejection where, to meet the claim, it is necessary to modify a single reference or to combine it with one or more other references. After indicating that the rejection is under 35 U.S.C. 103 (in light of KSR v. Teleflex, See MPEP 706.02(j)), the examiner should set forth in the Office action:

1. the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line number(s) where appropriate,

Art Unit: 2863

2. the difference or differences in the claim over the applied reference(s),
3. the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and
4. an explanation as to why the claimed invention would have been obvious to one of ordinary skill in the art at the time the invention was made.

Katsumi Morishita and Matsui are analogous art because they are from the same field of endeavor, measure photonic device.

#### **Contact information**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S. Lau whose telephone number is 571-272-2274. The examiner can normally be reached on M-F 9-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone numbers for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2863

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Tung S. Lau/  
Tung S. Lau, AU 2863  
Primary Examiner  
January 25, 2008